



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of U.S. Appln. No. Confirmation No. U.S. Filing Date Title of Invention Attny. Docket No	:. November 26, 2003 : EXPRESSION VECTOR, M HETEROLOGOUS GENE PR OF RECOMBINANT CELLS PRODUCTS	ODUCTS AND	FOR THE SELECTION
Mail Stop Amend Commissioner for P. O. Box 1450 Alexandria, VA 2	ment r Patents		
June 21, 2004			
TRANSMITT	TAL LETTER FOR INFORM	ATION DISCL	OSURE STATEMENT
Sir:			
Transmitted herev Statement (Form hereinbelow.	with concerning the subject app 1449A/B) under 37 C.F.R. §§1	lication is an Info .56 and 1.97, as n	ormation Disclosure nore specifically described
§1.53 (d); ii) with 37 C.F.R. §1.491 on the merits; or	This Statement is being fill application other than a continuin three (3) months of the date in an international application; iv) before the mailing of a first nation under 37 C.F.R. §1.114.	ued prosecution a of entry of the na iii) before the ma	pplication under 33 C.F.R. tional stage as set forth in ailing of a first Office action
notice of allowan	This Statement is being fi but before the mailing date of: i ace under 37 C.F.R. §1.311, or i a. This Statement is being accor-	i) a final action unii) an action that	nder 37 C.F.R. §1.113, ii) a
A	statement as specified in 37 C.	.F.R. §1.97(e) [se	e below]; or
	ha foo oot forth in 27 CFD 81	17(n)	

The Commissioner is hereby authorized to charge payment of the \$180.00 fee set forth in 37 C.F.R. §1.17(p) to Deposit Account No. 02-2955.
1.97(d). This Statement is being filed after the period specified in 37 C.F.R. §1.97(c) but on or before payment of the issue fee. This Statement is accompanied by a statement as specified in 37 C.F.R. §1.97(e) [see below] and the fee set forth in 37 C.F.R. §1.17(p).
1.97(e).
Each item of information contained in the instant information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to the filing of the instant information disclosure statement; or
No item of information contained in the instant information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in the instant information disclosure statement was known to any individual designated in 37 C.F.R. §1.56(c) more than three (3) months prior to the filing of the instant information disclosure statement.
The fee set forth in 37 C.F.R. §1.17(p).
The Commissioner is hereby authorized to charge payment of the \$180.00 fee set forth in 37 C.F.R. §1.17(p) to Deposit Account No. 02-2955.
1.704(d). Each item of information contained in the accompanying information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, which communication was not received by any individual designated in section 1.56(c) more than thirty (30) days prior to the filing of the accompanying

The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 C.F.R. §1.16 and any patent application processing fees under 37 C.F.R. §1.17, or credit any overpayment of same, to Deposit Account No. 02-2955.

Triplicate copies of this form are enclosed.

Respectfully submitted,

Susan K. Pocchiari

Attorney for Applicant(s)

Reg. No. 45,016

Patent Department Boehringer Ingelheim Corp. 900 Ridgebury Road, P.O. Box 368 Ridgefield, CT 06877 Tel: (203) 798-4868 Certificate of Mailing

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:

Mail Stop Amendment Commissioner For Patents P. O. Box 1450 Alexandria, VA 22313-1450

on June 21, 2004.

Susan K. Pocchiari, Reg. No. 45,016

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Under of Panerwork 1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Application Number 10/724,266 November 26, 2003 Filing Date Barbara Enenkel et al First Named Inventor Art Unit 1632 **Examiner Name** To be assigned

(Use as many sheets as necessary Sheet

Attorney Docket Number 1/1412

			U. S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ^{2 (f known)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 6,063,598	05/16/2000	Barbara Enenkel et al	
		US-4,656,134	04/07/1987	Gordon M. Ringold	
	-	US- 5,179,017	01/12/1993	Richard Axel et al	
	 	US- 5,491,084	02/13/1996	Martin Chalfie et al	
		^{US-} 6,146,826	11/14/2000	Martin Chalfie et al	•
		US-			
		US-			
	1	US-			
		US-			
		US			
······································		US-			
		US-			
·		US-			
		US-			<u></u>

		FOREIGN	PATENT DOCL	JMENTS		_
Examiner Initials*	Cite No.1	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Т6
	-	WO 97/15664	05/01/1997	Dr. Karl Thomae GmbH	441200000000000000001110000000000000000	上
		WO 98/32869	07/30/1998	Neurosearch		L
************************	 	WO 02/094325 A2	11/28/2002	Boehringer Ingelheim International GmbH		L
	1	WO 01/04306 A1	01/18/2001	Genentech, Inc.	, ,	┡
	ļ	WO 99/53046	10/21/1999	Chiron Corporation		L

	Date	
Examiner	Considered	
Signature		formation and pol

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language

Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, uspective including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents. P.O. Box 1450, Alexandria, VA 22313-1450. ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

JUN 2/3 2004

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Application Number 10/724,266 Filing Date Novemebr 26, 2003 First Named Inventor Barbara Enenkel et al Art Unit **Examiner Name** To be assigned

(Use as many sheets as necessary) Attorney Docket Number 1/1412 5

Examiner	Cite	Document Number	U. S. PATENT D Publication Date	Name of Patentee or	Pages, Columns, Lines, Where Relevant Passages or Relevant
Initials*	Cite No.1	Number-Kind Code ² (# known)	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
	1	US-			
		US-			
	-	US-			
	1	US-			
	·	US-			
		US-		-	
		US-			
		US-			
		US-			
	1	US-			
		US-			
	1	US-			
	- I	US-			
		US-			

	FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No.1	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Т6
			04/30/1997	Dr. Karl Thomae GmbH	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
				•	***************************************	
[····						
	1			1	***************************************	<u></u>
						

			_
	Date	li .	
Examiner	Considered	1	
Signature	Considered		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08b (08-03)

Approved for use through 06/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

2.1.47.4.4.66	om 1449B/PTO				Complete if Known
Substitute for t	om 14496/F10			Application Number	10/724,266
INFOR	MATION DIS	SCLO	SURE	Filing Date	November 26, 2003
	MENT BY A			First Named Inventor	Barbara Enenkel et al
SIAIL		·· · -·	0 7	Art Unit	1632
(Use as many sheets as	necessary))	Examiner Name	To be assigned
Sheet	2	of	5	Attorney Docket Number	1/1412

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the left (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city	T²
		CHARLES G. BAILEY ET AL; High-Throughput Clonal Selection of Recombinant CHO Cells Using a Dominant Selectable and Amplifiable Metallothionein-GFP Fusion Protein; Biotechnology and Biomolecular 12/20/2002 Vol. 7 page 670-676; Wiley Periodicals, Inc.	
		XUEDONG LIU ET AL; Generation of Mammalian Cells Stably Expressing Multiple Genes at Predetermined Levels; Analytical Biochemistry (2000) Vol. 9 pages 20-28; Academic Press	
***************************************		ROBERT P. BENNETT ET AL; Fusion of Green Fluorescent Protein with the Zeocin TM-Resistance Marker Allows Visual Screening and Drug Selection of Transfected Eukaryotic Cells; Biotecniques (March 1998) Vol. 24 No. 3 pages 478-482; Invitrogen Corporation, Carlsbad, CA. USA	*******
••••••		Y. GLORIA MENG ET AL; Green fluorescent protein as a second selectable marker for selection of high producing clones from transfected CHO cells; Gene (2000) Vol. 242 pages 201-207; Elsevier	********
		D.D. MOSSER ET AL; Use of a Dicistronic Expression Cassette Encoding the Green Fluorescent Protein for the Screening and Selection of Cells Expressing Inducible Gene Products; Biotechniques (1997) Vol. 22 No. 1 pages 150-161; National Research Council, Montreal Canada	
	***************************************	NO SOO KIM ET AL; Key Determinants in the Occurance of Clonal Variation in Humanized Antibody Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification; Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification; Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification;	
		ROLF G. WERNER ET AL; Appropriate Mammalian Expression Systems for Biopharmaceuticals; Drug Research (1998) Vol. 8 pages 870-880; Boehringer Ingelheim Pharma KG, Biberach Germany	
		GAIL URLAUB ET AL; Delection of the Diploid Dihydrofolate Reductase Locus from Cultured Mammalian Cells; Cell (June 1983) Vol. 33 pages 405-412; Department of Biological Sciences Co::mbia:University. New York: NY.	ļ
	İ	YOSHIKAZU SUGIMOTO ET AL; Efficient Expression of Drug-selectable Genes in Retroviral Vectors Under Control of an Internal Ribosome Entry Site; Biotechnology (July 1994) Vol. 12 pages	
		N. RAMESH ET AL; High-titer bicistronic retroviral vectors employing foot-and-mouth disease virus internal ribosome entry site; Nucleic Acids Research (1996) Vol. 24 No. 14 pages 2697-2700; Oxford University Press	

	Ginteres		
Examine		Date	
Signatur		Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

1 Applicant's unique to obtain or retain a benefit by the public which is to file (and by the This collection of information is required to obtain or retain a benefit by the public which is to file (and by the This collection of information is estimated to take 2 hours to complete, USPTO to process) an application. Confidentially is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, uspection is estimated to take 2 hours to complete, uspection of the USPTO. Time will vary depending upon the individual case. Any comments including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments including gathering, should be sent to the Chief Information Officer, U.S. Patent on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent on the amount of time you require to complete the property of the USPTO. This and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 145

Approved for use through 06/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for f	form 1449B/PTO				Complete if Known
				Application Number	10/724,266
INFOR	MATION DI	SCLO	SURE	Filing Date	Novemebr 26, 2003
	EMENT BY			First Named Inventor	Barbara Enenkel et al
				Art Unit	1632
(Use as many sheets as	necessary)	Examiner Name	To be assigned
Sheet	4	of	5	Attorney Docket Number	1/1412

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		MICHAEL PRIMIG 1 ET AL; A novel GFPneo vector designed for the isolation and analysis of enhancer elements in transfected mammalian cells; International Journal of Genes and Genomes (1998) Vol 215 pages 181-189; Elsevier Science B.V.	
		JERRY PELLETIER ET AL; Internal initiation of translation of eukaryotic mRNA directed by a sequence derived from poliovirus RNA; Nature (July 1988) Vol. 334 pages 320-325; Department of Biochemistry McGill Cancer Center, McGill University Montreal Canada	
		RICHARD A. MORGAN ET AL; Retroviral vectors containing putative internal ribosome entry sites: development of a polycistronic gene transfer system and applications to human gene therapy; Nucleic Acids Research (February 10, 1992) Vol. 20 No. 6 pages 1293-1299; Molecular Hematology Branch, Bethesda MD.	
		LUCIA MONACO ET AL; Expression of recombinant human granulocyte colony-stimulating factor in CHO dhfr -cells: new insights into the in vitro amplification expression system; Gene (1996) Vol. 180 pages 145-150; Elsevier Science B.V.	
		VICTOR V. LEVENSON ET AL; Internal Ribosomal Entry Site-Containing Retroviral Vectors with Green Fluorescent Protein and Drug Resistance Markers; Human Gene Therapy (May 20, 1998) Vol. 9 pages 1233-1236; Department of Molecular Genetics, University of IL. Chicago, IL.	
		RANDAL J. KAUFMAN; Selection and Coamplification of Heterologous Genes in Mammalian Cells; Methods in Enzymology Vol. 185 No. 42 pages 537-566; Academic Press, Inc.	
		SUNG K. JANG ET AL; Initiation of Protein Synthesis by Internal Entry of Ribosomes into the 5' Nontranslated Region of Encephalomyocarditis Virus RNA In Vitro; Journal of Virology (April 1989) Vol. 63 No. 4 Pages 1651-1660; American Society for Microbiology	
		CORD HEMANN ET AL; High-Copy Expression Vector Based on Amplification-Promoting Sequences; DNA and Cell Biology (1994) Vol. 13 No. 4 Pages 437-445; Mary Ann Liebert, Inc Publishers	
		ALEXANDER N. GUBIN ET AL; Long-Term, Stable Expression of Green Fluorescent Protein in Mammalian Cells; Biochemical and Biophysical Research Communications (1997) Vol. 236 pages 347-350. Academic Press	
		MARTIN CHALFIE ET AL; Green Fluorescent Protein as a Marker for Gene Expression; Science (February 11, 1994) Vol. 263 pages 802-805; Department of Biological Sciences, Columbia University New York, NY	

$\overline{}$		1
F	Date	
Examiner	Considered	
Signature	Considered	<u> </u>

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, used under the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Approved for use through 06/30/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Complete if Known		
				Application Number	10/724,266	
				Filing Date	November 26, 2003 Barbara Enenkel	
				First Named Inventor		
				Art Unit	1632	
(Use as many sheets as necessary))	Examiner Name	To be assigned	
Sheet	5	of	5	Attorney Docket Number	1/1412	

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²		
		MONIQUE V. DAVIES ET AL; The Sequence Context of the Initiation Codon in the Encephalomyocarditis Virus Leader Modulates Efficiency of Internal Translation Initiation; Journal of Virology (April 1992) Vol. 66 No. 4 pages 1924-1932; American Society for Microbiology			
		MOHAMMED A. ADAM ET AL; Internal Initiation of Translation in Retroviral Vectors Carrying Picornavirus 5' Nontranslated Regions; Journal of Virology (September 1991) Vol. 65 No. 9 pages 4985-4990; American Society for Microbiology			
		RANDAL J. KAUFMAN ET AL; Amplification and Expression of Sequences Cotransfected with a Modular Dihydrofolate Reductase Complementary DNA Gene; J. Mol. Biol. (1982) Vol. 159 pages 601-621; Center for Cancer Research and Department of Biology, Cambridge Mass.			
		International Search Report Refernce No. PCT/EP 03/13225			
	••••••				
			<u> </u>		

Examiner	Date	
Signature	Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here fiEnglish language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.